

WHAT IS CLAIMED IS:

1. A thermal fixing device comprising:

a fixing member configured to be in contact with a fixation medium;

5 a first pressing member disposed to face the fixing member and presses the fixation medium to the fixing member;

a second pressing member disposed to face the fixing member at a position downstream in a conveyance direction of the fixation medium with respect to the first pressing member and presses the  
10 fixation medium to the fixing member; and

a changeover unit configured to change over a pressing force per unit area of at least one of the first pressing member and the second pressing member.

2. The thermal fixing device as claimed in claim 1, wherein  
15 the changeover unit changes over the pressing force per unit area of the first pressing member and the pressing force per unit area of the second pressing member between a first state and a second state in which the pressing force per unit area of the first pressing member and the pressing force per unit area of the second  
20 pressing member are lower than those in the first state.

3. The thermal fixing device as claimed in claim 2, wherein the changeover unit performs the changeover so that a ratio of the pressing force per unit area of the second pressing member in the second state to the pressing force per unit area of the  
25 second pressing member in the first state is smaller than a ratio

of the pressing force per unit area of the first pressing member in the second state to the pressing force per unit area of the first pressing member in the first state.

4. The thermal fixing device as claimed in claim 2 further comprising:

a heating unit that generates heat for heating the fixing member by applied electricity;

a detecting unit that detects temperature of the fixing member; and

a controller that controls the heating unit on the basis of the temperature of the fixing member detected by the detecting unit,

wherein the controller controls, in the first state, the heating unit so that the temperature of the fixing member for fixing onto the fixation medium a medium to be fixed is set to a first temperature, and controls, in the second state, the heating unit so that the temperature of the fixing member for fixing onto the fixation medium the medium to be fixed is set to a second temperature higher than the first temperature.

5. The thermal fixing device as claimed in claim 2 further comprising:

a driving unit that drives the first pressing member and the second pressing member; and

a controller that controls the driving unit to control a conveyance speed of the fixation medium held between the fixing

member, the first pressing member and the second pressing member,

wherein the controller controls the driving unit so that in the first state, the conveyance speed is set to a first conveyance speed, and controls the driving unit so that in the second state, the conveyance speed is set to a second conveyance speed lower than the first conveyance speed.

6. The thermal fixing device as claimed in claim 1, wherein the changeover unit comprises:

a holding member that holds the first pressing member and the second pressing member;

a supporting member that swingably supports the holding member at a position upstream in the conveyance direction of the fixation medium with respect to a holding portion of the holding member for the second pressing member; and

a swinging member that swings the holding member using the supporting member as a fulcrum.

7. The thermal fixing device as claimed in claim 6, wherein the supporting member supports the holding member swingably at a position upstream in the conveyance direction of the fixation medium with respect to a holding portion of the holding member for the first pressing member.

8. The thermal fixing device as claimed in claim 1, wherein the changeover unit comprises an operation member configured to be operated by an operator to change over the pressing force per unit area of at least one of the first pressing member and the

second pressing member.

9. The thermal fixing device as claimed in claim 8, wherein the holding member is provided at each of both ends of the first pressing member and the second pressing member in a longitudinal  
5 direction, and

wherein the changeover unit comprises an interlocking member for swinging the respective holding members in conjunction with each other by the operation of the operation member.

10 10. The thermal fixing device as claimed in claim 1, wherein a friction coefficient of the second pressing member to the fixation medium is equal to or larger than a friction coefficient of the first pressing member to the fixation medium.

11. The thermal fixing device as claimed in claim 10, wherein  
15 a friction coefficient of the fixing member to the fixation medium is equal to or larger than the friction coefficient of the second pressing member to the fixation medium.

12. The thermal fixing device as claimed in claim 1, wherein the fixing member comprises a fixing roller, the first pressing  
20 member comprises a first pressure roller, and the second pressing member comprises a second pressure roller, and

wherein a rotation center of the second pressure roller is disposed at a farther side from the fixing roller with respect to a tangent line of the fixing roller at a most downstream  
25 position of a contact portion between the fixing roller and the

first pressure roller in the conveyance direction of the fixation medium.

13. The thermal fixing device as claimed in claim 1, wherein the first pressing member comprises a first pressure roller, the  
5 second pressing member comprises a second pressure roller,

wherein the thermal fixing device further comprises a driving unit that drives the first pressure roller and the second pressure roller, and a controller that controls the driving unit, and

10 wherein the controller controls the driving unit so that a peripheral speed of the second pressure roller is higher than a peripheral speed of the first pressure roller.

14. The thermal fixing device as claimed in claim 1 further comprising a cleaning member configured to be in contact with  
15 the first pressing member and the second pressing member and cleans the first pressing member and the second pressing member.

15. The thermal fixing device as claimed in claim 14, wherein the fixing member has a fixation area configured to be in contact with the fixation medium, and

20 wherein the cleaning member is disposed to face the fixing member and has a length longer than the fixation area in a longitudinal direction.

16. The thermal fixing device as claimed in claim 1 further comprises an endless belt stretched between the first pressing  
25 member and the second pressing member.

17. A thermal fixing device comprising:

a fixing member configured to be in contact with a fixation medium;

a first pressing member disposed to face the fixing member  
5 and presses the fixation medium to the fixing member; and

a second pressing member disposed to face the fixing member  
at a position downstream in a conveyance direction of the fixation  
medium with respect to the first pressing member and presses the  
fixation medium to the fixing member,

10 wherein a friction coefficient of the second pressing  
member to the fixation medium is equal to or larger than a friction  
coefficient of the first pressing member to the fixation medium.

18. The thermal fixing device as claimed in claim 17, wherein  
a friction coefficient of the fixing member to the fixation medium  
15 is equal to or larger than the friction coefficient of the second  
pressing member to the fixation medium.

19. The thermal fixing device as claimed in claim 17, wherein  
the fixing member comprises a fixing roller, the first pressing  
member comprises a first pressure roller, and the second pressing  
20 member comprises a second pressure roller, and

wherein a rotation center of the second pressure roller  
is disposed at a farther side from the fixing roller with respect  
to a tangent line of the fixing roller at a most downstream  
position of a contact portion between the fixing roller and the  
25 first pressure roller in the conveyance direction of the fixation

medium.

20. The thermal fixing device as claimed in claim 17, wherein the first pressing member comprises a first pressure roller, the second pressing member comprises a second pressure roller,

5 wherein the thermal fixing device further comprises a driving unit that drives the first pressure roller and the second pressure roller, and a controller that controls the driving unit, and

10 wherein the controller controls the driving unit so that a peripheral speed of the second pressure roller is higher than a peripheral speed of the first pressure roller.

21. The thermal fixing device as claimed in claim 17 further comprising a cleaning member configured to be in contact with the first pressing member and the second pressing member and  
15 cleans the first pressing member and the second pressing member.

22. The thermal fixing device as claimed in claim 21, wherein the fixing member has a fixation area configured to be in contact with the fixation medium, and

20 wherein the cleaning member is disposed to face the fixing member and has a length longer than the fixation area in a longitudinal direction.

23. The thermal fixing device as claimed in claim 17 further comprises an endless belt stretched between the first pressing member and the second pressing member.

25 24. An image forming apparatus comprising:

a sheet feeding section configured to feed a sheet as a fixation medium; and

an image forming section having a thermal fixing device and configured to form an image on the sheet fed by the sheet feeding section,

wherein the thermal fixing device comprises:

a fixing member configured to be in contact with a fixation medium;

a first pressing member disposed to face the fixing member and presses the fixation medium to the fixing member;

a second pressing member disposed to face the fixing member at a position downstream in a conveyance direction of the fixation medium with respect to the first pressing member and presses the fixation medium to the fixing member; and

a changeover unit configured to change over a pressing force per unit area of at least one of the first pressing member and the second pressing member.

25. An image forming apparatus comprising:

a sheet feeding section configured to feed a sheet as a fixation medium; and

an image forming section having a thermal fixing device and configured to form an image on the sheet fed by the sheet feeding section,

wherein the thermal fixing device comprises:

a fixing member configured to be in contact with a fixation



medium;

a first pressing member disposed to face the fixing member and presses the fixation medium to the fixing member; and

5 a second pressing member disposed to face the fixing member at a position downstream in a conveyance direction of the fixation medium with respect to the first pressing member and presses the fixation medium to the fixing member,

wherein a friction coefficient of the second pressing member to the fixation medium is equal to or larger than a friction  
10 coefficient of the first pressing member to the fixation medium.